(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
7 July 2005 (07.07.2005)

PCT

(10) International Publication Number
WO 2005/061207 A1

(51) International Patent Classification[7]: B29C 47/38

(21) International Application Number:
PCT/IB2004/052850

(22) International Filing Date:
17 December 2004 (17.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
103053 18 December 2003 (18.12.2003) PT

(71) Applicant *(for all designated States except US)*: **UNIVERSIDADE DO MINHO** [PT/PT]; UNIVERSIDADE DO MINHO, Largo do Paço, P-4700-320 BRAGA (PT).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **COLAÇO GOMES COVAS, José, António** [PT/PT]; Rua Cândido Oliveira N.º 195 HAB-35, P-4710-358 Braga (PT). **MOREIRA MACHADO COSTA, Pedro, António** [PT/PT]; Av. Marechal Humberto Delgado 603 3.º, P-4760 V. N. FAMALICÃO (PT).

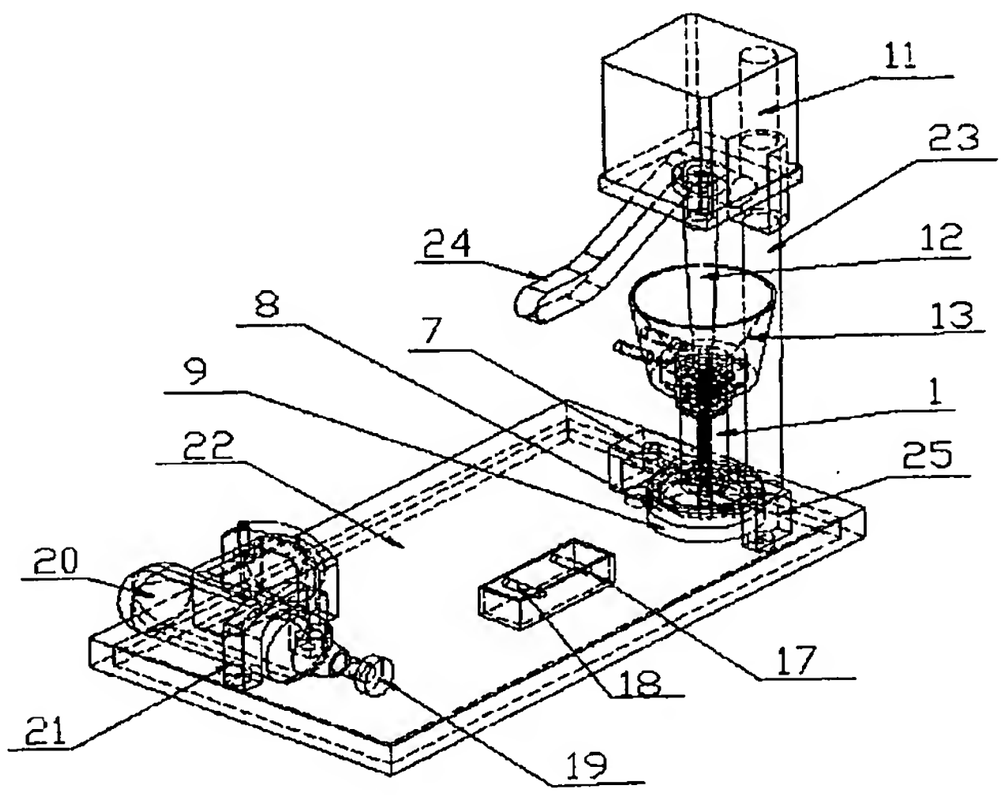
(74) Agent: **VIEIRA PEREIRA FERREIRA, Maria, Silvina**; CLARKE, MODET & Cº, Rua Castilho N.º 50 - 5º, P-1269-163 Lisboa (PT).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: MICRO-EXTRUSION LINE



(57) Abstract: The invention refers to a micro-extrusion line that comprises a single screw (2) micro-extruder (1), a die (7), a cooling bath (17) and a haul-off (19), which together enables the manufacture of extruded profiles from small amounts of raw material. The rotation of the micro-extruder screw, together with the high temperatures created by the heater bands, produces the conveying, melting, mixing and pumping of the material through the die. The extrudate is cooled down in a bath containing a cooling liquid and winded in a coil (19), which has a linear speed higher than that of the extrusion, thus enabling the control of the extrudate cross-section.

WO 2005/061207 A1